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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,785	02/24/2004	Tomoyuki Yagi	1232-5295	3766
27123	7590	12/20/2005	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			WILLIAMS, DON J	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/786,785	<b>Applicant(s)</b> YAGI, TOMOYUKI	
	<b>Examiner</b> Don Williams	<b>Art Unit</b> 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on February 24, 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on February 24, 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 9 and 10 are objected to because the preamble statement should be consistent with the claim from which they are dependent. Claims 9 and 10 are actually quasi independent claims and should be rewritten as such. For examining purpose, the claims will be treated as an x-ray imaging apparatus with all of the limitations of claim 1 included.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Kaifu et al (6,075,256).

As to claim 11, Kaifu et al disclose a step of forming a first conductive layer on an insulating substrate (1), and forming a sensor electrode (100) and a gate electrode (202) by etching the formed first conductive layer (1), a step of sequentially forming a first insulating layer (207) and a first and second amorphous semiconductor layers (204, 205) on the formed sensor (100) and gate electrode (202), a step of etching the first insulating layer (207) and first and second amorphous semiconductor layers (204, 205)

formed in a predetermined area on the sensor electrode (100), forming a second conductive layer to form a sensor bias line (406) above the sensor electrode (100) and form a source electrode layer (206), drain electrode layer (208), and signal line (406) above the gate electrode (202), and a step of forming an transparent electrode (21) visible light on an area in which the sensor bias line (406) and the second amorphous semiconductor layer (205) are exposed, (see figure 9A, column 10, lines 45-52, column 11, lines 1-35, figure 10A, column 11, lines 37-67).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alving et al in view of Yamazaki et al (6,944,266).

As to claim 1 and 2, Alving et al disclose a read unit (6) amplifying and reading electric charge transferred by transfer device (43), a driving unit (21), a two dimensional sensor (20) (which are functionally equivalent to photoelectric converting elements) having a plurality of two dimensional pixels (5), radiation or visible light (3) into an electric signal (cIS), common signal line paths (40), (see figure 1, column 6, lines 1-30). Alving et al disclose the inclusion of an exposure control system, however, Alving et al is silent as to the inclusion of a phototimer. Yamazaki et al disclose a phototimer

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detection unit that is actually an automatic exposure control detector (AEC) (12). It would have been obvious for one ordinary skill in the art to modify Alving et al to include a phototimer detection unit in (AEC) as disclosed by Yamazaki et al to improve the conversion of energy light rays to an electrical or voltage signal wherein the voltage signals are transferred by the corresponding transfer device to the readout amplifier in order for a clear and precise image of the patient's scanned body to be displayed on the display device allowing accurate medical observation to be acquired, (see figure 1, column 1, lines 5-38).

As to claim 3, the modified Alving disclose a phototimer detection unit (12) provided on the signal transmission line path which connects the transfer device to the read unit, (see column 1, lines 30-38, column 3, lines 1-10).

As to claim 4, Yamazaki et al disclose a phototimer detection unit (12) is manufactured by the same process used for making the photoelectric conversion elements or the transfer devices, (see column 3, lines 5-10, column 8, lines 35-54).

As to claim 10, Alving et al disclose a photoelectric conversion apparatus wherein an electrical signal read unit (6) for reading an electrical signal (cS) on the basis of x-rays (3) detected by phototimer detection unit (12) of photoelectric conversion apparatus; and an exposure control unit (10) for determining an exposure from an electrical signal (cS) read by read unit (6) and controls an x-ray source (1) to obtain an image having an optical contrast, (see figure 1, column 5 and column 6, lines 1-65).

Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alving et al in view of Yamazaki et al and further in view of Kaifu et al (6,075,256).

As to claims 5, 6, 7, and 8, the modified Alving et al disclose photoelectric conversion elements (5). Alving et al fail to disclose a first electrode layer, a first insulating layer, a second electrode layer, first injection blocking layer, a second injection blocking layer, a first conductivity type, a photoelectric conversion semiconductor layer, a non-single semiconductor and a third electrode layer. Kaifu et al disclose a first electrode layer, a first insulating layer, a second electrode layer, a first injection blocking layer, a second injection blocking layer, a first conductivity type, photoelectric conversion semiconductor layer, a non-single semiconductor and a third electrode layer. It would have been obvious for one ordinary skill in the art to modify Alving et al to include a first electrode layer, a first insulating layer, a second electrode layer, an injection blocking layer, a first conductivity type and a third electrode layer as disclosed by Kaifu et al to improve the reducing of dark current by introducing electrons or electric charge into the transparent layer and inhibiting holes from being injected into the layers wherein optical current may decrease or increase due to current generated without incident light, (see Abstract, figure 1, column 1, lines 45-55, column 2, lines 1-45, column 11, lines 1-8, figure 10, column 12, lines 8-40, figure 20B, column 24, lines 25-60).

As to claim 9, the modified Alving et al disclose a photoelectric conversion apparatus and x-ray (3). The modified Alving et al fail to disclose phosphor. Kaifu et al disclose phosphor that is used for the conversion of light in to electrical or charge

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signals. It would have been obvious for one ordinary skill in the art to modify Alving et al to include phosphor as disclosed by Kaifu et al to improve the conversion of the x-rays to light and further converting the light into electrical charge signals wherein the charge signals are received by the processor and displayed in the form of an image, (see figure 20 B, column 24, lines 25-60).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Don Williams whose telephone number is 571-272-8538. The examiner can normally be reached on 8:30a.m. to 5:30a.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Georgia Epps  
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